Use of Dietary Supplements in Patients Seeking Treatment at a Periodontal Clinic

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Background

- Dietary supplement use may modify the risk for the development and progression of periodontal disease.
- Antioxidant activity of vitamins and anti-inflammatory activity of polyunsaturated fatty acids may attenuate the development of periodontal disease.
- Vitamin D sufficiency (serum 25(OH)D>50 nmol/L) before open flap debridement surgery resulted in greater clinical attachment levels and reductions in probing depths post-surgery.
- Other nutrients may also assist with wound healing.
- Before conducting RCTs to determine if dietary supplements enhance outcomes after periodontal procedures, we need to understand the pattern of dietary supplement intakes to design such studies.

To characterize the use of dietary supplements by patients who seek periodontal treatment for one of three reasons: comprehensive general examination, implant consultation, or other surgical consultation.

Study Design

- 376 surveys were collected from a periodontal clinic in Southern Ontario, Canada.
- The ‘reason for visit’ categories were: Comprehensive General Examination (n = 90), Implant Consultation (n = 126), and Other Surgical Consultation (n = 160, crown lengthening, flap surgery, grafting).
- A supplement was considered used if the patient indicated any use of the supplement, irrespective of brand, dose, frequency, or duration.
- The frequency of supplement use among groups was assessed using a Chi-square test, \( p \leq 0.05 \).
- This study was approved by the Human Ethics Board at Brock University, St. Catharines, Ontario.

Objective

To characterize the use of dietary supplements by patients who seek periodontal treatment for one of three reasons: comprehensive general examination, implant consultation, or other surgical consultation.

Results

- Study population was mostly female (60%) and 51-70 years of age (57%).
- Older, non-smoking females most likely to use supplements.
- Females used more B Vitamin Complex, Calcium, Fish Oil, Green Tea, Magnesium, Omega 3,6,9, and Vitamin D than males.
- Calcium and Vitamin D use increased with patient age.
- Smokers used less Calcium, Fish Oil, Green Tea, and Vitamin D than non-smokers.

Table 1: Characteristics of Study Population

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Male n (%)</th>
<th>Female n (%)</th>
<th>Total n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-49 years</td>
<td>45 (29.6)</td>
<td>70 (43.2)</td>
<td>115 (38.6)</td>
</tr>
<tr>
<td>50-70 years</td>
<td>65 (43.9)</td>
<td>58 (36.5)</td>
<td>123 (41.3)</td>
</tr>
<tr>
<td>70+ years</td>
<td>22 (14.5)</td>
<td>13 (8.3)</td>
<td>35 (11.3)</td>
</tr>
<tr>
<td>Smoking Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never Smoker</td>
<td>28 (18.4)</td>
<td>32 (20.3)</td>
<td>60 (18.3)</td>
</tr>
<tr>
<td>Ever Smoker</td>
<td>124 (81.6)</td>
<td>102 (79.7)</td>
<td>226 (76.7)</td>
</tr>
<tr>
<td>Reason for Visit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive General Examination</td>
<td>56 (35.8)</td>
<td>79 (51.2)</td>
<td>135 (43.5)</td>
</tr>
<tr>
<td>Implant Consultation</td>
<td>27 (18.3)</td>
<td>29 (18.3)</td>
<td>56 (17.9)</td>
</tr>
<tr>
<td>Other Surgical Consultation</td>
<td>59 (38.3)</td>
<td>103 (68.3)</td>
<td>162 (52.7)</td>
</tr>
</tbody>
</table>

Summary

- Study population was mostly female (60%) and 51-70 years of age (57%).
- Older, non-smoking females most likely to use supplements.
- Females used more B Vitamin Complex, Calcium, Fish Oil, Green Tea, Magnesium, Omega 3,6,9, and Vitamin D than males.
- Calcium and Vitamin D use increased with patient age.
- Smokers used less Calcium, Fish Oil, Green Tea, and Vitamin D than non-smokers.

Conclusion & Next Steps

Supplement usage was similar to the general Canadian population, independent of reason for visiting the periodontist. Future dietary intervention studies to optimize periodontal health can focus on supplements with known biological activities that may enhance wound healing after periodontal procedures. Dietary supplements such as those with known anti-inflammatory, antioxidant or osteogenic activity are of interest.

Acknowledgments

W.E. Ward holds a Canada Research Chair in Bone and Muscle Development.